

WHAT IS CLAIMED IS:

1. An additional information embedding apparatus for embedding plural pieces of additional information having different significance degrees on a signal, comprising:

means for generating said plural pieces of additional information;

electronic watermark information generating means for converting said plural pieces of additional information into electronic watermark information;

control means for controlling the size of a embedding part for each of said electronic watermark information in accordance with the significance degree of the corresponding additional information; and

embedding means for embedding said electronic watermark information on said signal based on a control signal from said control means.

2. The additional information embedding apparatus according to claim 1, wherein:

said signal is a video signal; and

said control means controls said embedding means so that each of said electronic watermark information is embedded within a one-frame screen or a one-field screen of said video signal, and that a embedding part for electronic watermark information indicating additional information having a higher significance

degree is set to be larger in size.

3. The additional information embedding apparatus according to claim 1, wherein:

said signal is a video signal; and

said control means controls said embedding means so that each of said electronic watermark information is embedded on a one- or plural-frame basis of said video signal or on one- or plural-filed basis of said video signal, wherein a embedding part for electronic watermark information indicating additional information having a higher significance degree is set to occupy a larger number of frames or a larger number of fields which constitute said embedding part.

4. The additional information embedding apparatus according to claim 1, wherein

said embedding means embeds said plural pieces of electronic watermark information having different significance degrees are embedded on said video signal at embedding levels equal to one another.

5. An additional information embedding apparatus comprising:

a plurality of additional information generating means for generating additional information having different

significance degrees;

a plurality of electronic watermark information generating means provided correspondingly to said plurality of additional information generating means for generating plural pieces of electronic watermark information from said additional information obtained by said additional information generating means;

combining means for combining said plural pieces of electronic watermark information obtained by said plurality of electronic watermark information generating means while they are assigned to separate embedding parts;

combination timing signal generating means for producing a combination timing signal used for controlling a combination timing of said combining means so that the size of the embedding part for each of said plural pieces of additional information having different significance degrees is set in accordance with the significance degree of the corresponding additional information; and

embedding means for embedding the combined electronic watermark information obtained by said combining means, on said video signal.

6. The additional information embedding apparatus according to claim 5, wherein

said combination timing signal generating means

generates said combination timing signal so that said plural pieces of the electronic watermark information from said plurality of electronic watermark information generating means are embedded within a one-frame or one-field screen of said video signal, and that a embedding part for electronic watermark information indicating additional information having a higher significance degree is set to be larger in size.

7. The additional information embedding apparatus according to claim 5, wherein

said combination timing signal generating means generates said combination timing signal so that said plural pieces of electronic watermark information obtained by said plurality of electronic watermark information generating means are embedded with one or plural frame(s) of said video signal or on one or plural field(s) of said video signal as a embedding part unit, and that a embedding part for electronic watermark information indicating additional information having a higher significance degree is set to occupy a larger number of frames or a larger number of fields which constitute said embedding part.

8. The additional information embedding apparatus according to claim 5, wherein

said plural pieces of electronic watermark information respectively indicating said plural pieces of additional

information having different significance degrees are embedded on said video signal at embedding levels equal to one another.

9. An additional information detecting apparatus for detecting plural pieces of additional information from a video signal on which said plural pieces of additional information are embedded as electronic watermark information, wherein:

said plural pieces of electronic watermark information respectively indicating said plural pieces of additional information are separately embedded in embedding parts, and the size of each embedding part is set in accordance to the significance degree of the corresponding additional information; and

said additional information detecting apparatus comprises:

detecting means for detecting additional information as electronic watermark information from said each embedding part which is set in accordance with the significance degree of said corresponding additional information; and

detection timing signal generating means for producing a detection timing signal used for detecting additional information and supplying it to said detecting means, for said each embedding part which is set in accordance with the significance degree of said corresponding additional information.

10. The additional information detecting apparatus according to claim 9, wherein

in the case where said signal is a video signal, said plural pieces of electronic watermark information respectively indicating said plural pieces of additional information having different significance degrees are embedded within a one-frame or one-field screen of said video signal, and the embedding parts for said plural pieces of electronic watermark information respectively indicating said plural pieces of additional information are set in such a manner that a embedding part for electronic watermark information indicating additional information having a higher significance degree is set to be larger in size in said one-frame or one-field screen.

11. The additional information detecting apparatus according to claim 9, wherein

in the case where said signal is a video signal, said plural pieces of electronic watermark information respectively indicating said plural pieces of additional information having different significance degrees are embedded on a one- or plural-frame basis of said video signal or on a one- or plural-field basis of said video signal, and a embedding part for electronic watermark information indicating additional information having a higher significance degree is set to occupy a larger number of

frames or a larger number of fields which constitute said embedding part.

12. An additional information embedding method of embedding plural pieces of additional information having different significance degrees on a video signal, comprising:

a step of generating said plural pieces of additional information;

an electronic watermark information generating step of converting said plural pieces of additional information into electronic watermark information;

a control step of controlling the size of a embedding part for each of said plural pieces of electronic watermark information in accordance with the significance degree of the corresponding additional information; and

a embedding step of embedding said plural pieces of electronic watermark information on said signal based on a control signal from said control step.

13. The additional information embedding method according to claim 12, wherein:

said signal is a video signal; and

said control step controls said embedding step so that each of said plural pieces of electronic watermark information is embedded within a one-frame or one-field screen of said video

signal and that a embedding part for electronic watermark information indicating additional information having a higher significance degree is set to be larger in size.

14. The additional information embedding method according to claim 12, wherein:

said signal is a video signal; and

said control step controls said embedding step so that each of said plural pieces of electronic watermark information is embedded on a one- or plural-frame basis or a one- or plural-field basis of said video signal, and that a embedding part for electronic watermark information indicating additional information having a higher significance degree is set to occupy a larger number of frames or a larger number of fields which constitute said embedding part.

15. The additional information embedding method according to claim 12, wherein

said embedding step embeds said plural pieces of electronic watermark information having different significance degrees on said video signal at embedding levels equal to one another.

16. A additional information detecting method of detecting plural pieces of additional information from a video signal on



which said plural pieces of additional information are embedded as electronic watermark information, wherein:

said plural pieces of electronic watermark information respectively indicating said plural pieces of additional information are separately embedded in respective embedding parts, and the size of each embedding part is set in accordance with the significance degree of the corresponding additional information; and

said additional information detecting method comprises:

a detecting step of detecting additional information indicated by electronic watermark information, from said each embedding part which is set in accordance with the significance degree of said corresponding additional information; and

a detection timing signal generating step of generating a detection timing signal for detecting said additional information and supplying it to said detecting step, for said each embedding part which is set in accordance with the significance degree of said corresponding additional information.

17. The additional information detecting method according to claim 16, wherein

in the case where said signal is a video signal, each of said plural pieces of electronic watermark information

respectively indicating said plural pieces of additional information having different significance degrees is embedded within a one-frame or one-field screen of said video signal, and embedding parts for said plural pieces of electronic watermark information respectively indicating said plural pieces of additional information are set in such a manner that a embedding part for electronic watermark information indicating additional information having a higher significance degree is set to be larger in size in said one-frame or one-field screen.

18. The additional information detecting method according to claim 16, wherein

in the case where said signal is a video signal, each of said plural pieces of the electronic watermark information indicating said plural pieces of additional information having different significance degrees is embedded with one or plural frame(s) or one or plural field(s) of said video signal as a embedding part unit, and a embedding part for embedding electronic watermark information indicating additional information having a higher significance degree is set to occupy a larger number of frames or a larger number of fields which constitute said embedding part.